FACT SHEET FOR NPDES AND STATE WASTE DISCHARGE PERMIT WA-000247-0

FACILITY NAME: WESTFARM FOODS – LYNDEN PLANT

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INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has authorized the State of Washington to administer the NPDES permit program. Chapter 90.48 RCW defines the Department of Ecology's authority and obligations in administering the Wastewater Discharge Permit Program.

The regulations adopted by the state include procedures for issuing permits (chapter 173-220 WAC), water quality criteria for surface and ground waters (chapters 173-201A and 200 WAC), and sediment management standards (chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty (30) days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A—Public Involvement of the fact sheet for more detail on the public notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response.

GENERAL INFORMATION	
Applicant	WestFarm Foods
Facility Name and Address	WestFarm Foods – Lynden Plant 8424 Depot Road Lynden, WA 98264
Type of Facility	Powdered Milk Production
SIC Code	2023
Discharge Location	Waterbody Name: **Nooksack River** (Sample Point 001 for cow water and noncontact cooling water - *direct* discharge). **Indirectly to Nooksack River** (Sample Point 003 for industrial process water - *indirect* discharge by means of City of Lynden POTW). **Nooksack River** (Sample Point 004 for storm water - *direct* discharge). **Nooksack River** (Sample Point 005 for storm water - *direct* discharge). **Nooksack River** (Sample Point 006 for storm water - *direct* discharge). WFF Plant: Latitude: 48° 56' 52" N Longitude: 122° 27' 06" W City of Lynden POTW: Latitude: 48° 56' 16" N Longitude: 122° 27' 06" W
Waterbody ID No.	WA-01-1010

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

INDUSTRIAL PROCESS

WestFarm Food's (WFF) Lynden plant processes approximately four million pounds of whole milk per day and produces approximately 377,000 pounds of nonfat dry milk per day. Other products include condensed skim milk, evaporated milk, and cream.

Raw milk is first unloaded into storage silos. WFF maintains nine-each silos of 50,000 gallons capacity each in the receiving area. The raw milk is run through cream separators. The cream is stored in three cream storage silos with a capacity of 10,000 gallons each. Cream is trucked to other Darigold plants.

The skim milk fraction is directed to a combination of Wiegand MVR evaporator units and Rogers TVR evaporator units. The relatively less efficient Blaw Knox TVR (Thermal Vapor Recompression) evaporator was taken off-line in early 2006. The resulting product is then sent to Rogers milk dryers. The dried milk is then transferred to storage bins (four-each of 150,000-pound capacity). The dried product is drawn out of the cone bottoms of the bins for bagging. The bags are stored in the warehouse prior to shipping.

WestFarm Foods' Lynden facility consists of an "Old Plant" and a "New Plant." The new plant recirculates its noncontact cooling water. The evaporators, separators, pasteurizers, and heat exchangers are cleaned in place by a fresh water wash and alternating cycles of caustic solution and acid solution. The word used to describe this process is clean-in-place (CIP). The most common washing sequence consists of a pre-rinse, a caustic wash, a post-rinse, and an acid sanitizing rinse. The inorganic cleaning chemicals used in the process include sodium hydroxide, phosphoric acid, and nitric acid. The resulting waste water is then sent to a 215,000-gallon equalization tank where it undergoes pH adjustment using carbon dioxide. However, if sensors detect turbidity above a certain threshold in the plant waste water, a valve is automatically switched in order to direct the high-strength waste water to a 50,000-gallon shock tank. The modifications to the treatment system resulting in the tank capacities described above were completed in early 2006. Previous to the modifications, the capacity of the equalization tank and shock tanks were 50,000 gallons, and 30,000 gallons, respectively.

PRETREATMENT/EQUALIZATION WORKS

EQUALIZATION TANK/CARBON DIOXIDE DIFFUSER

The 215,000-gallon equalization tank is equipped with a carbon dioxide diffuser which is intended to lower the pH of the mainly caustic plant effluent. The carbon dioxide diffuser also has the capacity to raise the pH of strong acid solutions. Sodium hydroxide or sulfuric acid is added if the capability of the carbon dioxide to achieve compliance with pH limitations is temporarily insufficient.

TURBIDITY METER/DIVERSION VALVE/SHOCK TANK

In November 1998, WFF completed installation of a 30,000-gallon "shock tank." At the same time, WFF installed turbidity meters. The shock tank capacity was increased to 50,000 gallons in January 2006. One turbidity meter monitors waste water in the main receiving sump, and the second turbidity meter monitors waste water in the outlet of the main indirect discharge sump. If either turbidity meter detects turbidity in excess of a certain threshold, a valve is activated which diverts the wastewater flow to the shock tank, as opposed to the 215,000-gallon surge tank to which it would normally flow. The waste water from the shock tank is trucked to a dairy lagoon. The capability also exists to treat this waste water in the dissolved air flotation system, if necessary.

DISSOLVED AIR FLOTATION (DAF) PLANT

The dissolved air flotation plant was installed in 1989 and is described in the Darigold (WFF) Engineering Report dated January 5, 1989.

At this time, high strength wastewater is being trucked to a dairy lagoon as opposed to being treated by the DAF system.

When the DAF system was operated, waste water from the 50,000-gallon equalization tank was first introduced into a 500-gallon flocculation tank with capabilities for addition of acid, anionic polymer, and alum. Following mixing, the waste water entered a DAF flotation tank with a capacity of approximately 7,000 gallons. Subsequent operating experience indicated that the TSS/BOD removal achieved by the DAF unit was relatively low unless the pH was lowered to approximately five. As WFF's process wastewater is predominantly basic, acid addition was required to lower the pH to the desired level. Problems with malfunctioning in the acid addition system were the cause of a number of significant operation problems at the Lynden POTW in the early 1990's. Even if the acid system operated without malfunction, the resulting effluent pH range of 5.0 to 5.5 caused potential noncompliance with respect to the lower pH limitation of 5.0. In addition, it was found from operational experience that the DAF plant runs at a low efficiency when low strength wastewater was introduced into the system. Even under ideal conditions removal of milk sugars (mainly lactose), and a subset comprising certain milk proteins, is not possible using DAF technology.

SLUDGE STORAGE AND DISPOSAL

When the DAF system was operated, the resulting sludge was stored in a 7,000-gallon tank prior to being hauled to a dairy lagoon or applied to crops. Whatcom County Health Department issued a letter in 1989 authorizing this method of disposal for DAF skimmings. As the DAF system is not being operated at this time, this tank is being used to store high pH wastewater for pH neutralization as described below.

PH NEUTRALIZATION BY MIXING OF WASTESTREAMS

As noted above, the greater part of pH control is achieved by means of addition of carbon dioxide in the 215,000-gallon equalization tank. In order to minimize the use of carbon dioxide and reduce the possibility of surcharging the neutralization capacity of that system, WFF has adopted a procedure for mixing waste waters. Waste water produced during the night is

normally slightly acidic. Waste water resulting from clean-in-place operations is normally basic. Particularly basic clean-in-place wastewater generated during the day is stored in the tank formerly used for DAF sludge storage. The waste water is bled into the 215,000-gallon equalization tank at night to neutralize the acidic wastestream.

COOLING TOWER

A cooling tower was installed in the fall of 1995 and is used to lower the temperature of the cow water/noncontact cooling water prior to direct discharge to the Nooksack River by means of a storm sewer, which combines with the outfall employed by the City of Lynden wastewater treatment plant. The volume of the cow water/noncontact cooling water discharged is approximately 800,000 gallons per day maximum. Cow water consists of the water which is removed from the milk during the production of dry milk. The cow water typically contributes 400,000 gallons per day, and the noncontact cooling water contributes approximately 400,000 gallons per day.

IMPROVEMENTS TO WESTFARM FOODS EQUALIZATION/ PRETREATMENT SYSTEM UNDERTAKEN

In response to a Notice of Violation issued by the Department on February 26, 2004, WestFarm Foods agreed to submit an engineering report for improvements in its wastewater pretreatment system. WestFarm Foods submitted a stamped engineering report on October 24, 2004, and the Department approved the report as a conceptual engineering report. The improvements listed in the approved report included the following items:

- An increase in the volume of the equalization tank capacity from the present 50,000 gallons to 180,000 gallons.
- Installation of opacity and pH meters at the lift station pump, with recirculation to the equalization tank (as opposed to discharge) of wastewater that does not meet pH and opacity targets.
- Opacity and pH monitors at the DAF catch basin, would also be used to return waste water to the equalization tank if pH and opacity targets are not met.
- Additional flow meters would be installed to monitor flow from the DAF system and the overflow line from the lift station pump, mainly for internal process control purposes.
- Installation of pH monitors after the lift station pumps prior to equalization storage.
- Installation of a pump with variable frequency drive after the equalization tank to increase pumping capacity.
- Installation of flow meters at the inlet of the existing wastewater treatment plant to manage treatment and accumulation rates.
- Installation of new monitors, pump and valve controls to be linked to the existing Allen Bradley PLC and a new HMI control panel to improve automatic control and visibility of key parameters. The ability to monitor and control treatment plant operations at a display in the control room is intended to bring operational control of the treatment plant under plant operational staff, as opposed to staff inspecting pretreatment operations by means of time-to-time visits to the pretreatment plant area.

- A treatability study will identify modification to the flocculation and recycle systems of the DAF to meet treatment rates.
- A checkpoint would be installed at the end of the system to monitor pH, opacity, and possibly TOC. This instrumentation would be used in conjunction with a recirculation system from the final effluent sump.

As the engineering report was approved by the Department as a conceptual engineering report, it was anticipated that some modifications in the project as described in the engineering report would be anticipated.

WestFarm Foods submitted a revised engineering report to the Department on July 15, 2005. The main changes proposed to the initial proposal are:

- The volume of the equalization tank will be increased from the originally proposed 180,000 gallons to 215,000 gallons. This will result in a tank capacity equivalent to a full day of typical flow.
- The volume of a separate spill containment tank will be increased from 8000 gallons by use of the existing 50,000-gallon tank as the spill/high strength waste containment tank.
- The chemistry of the DAF system will not be modified and the DAF treatability study will not be conducted. Instead of treating high strength waste in the DAF system, WestFarm Foods plans to haul all such waste to its existing land disposal site which has been approved for solid waste land application by Whatcom County. Despite abandonment of the plans to upgrade DAF treatment chemistry, the functionality of the DAF system will be preserved with the existing chemistry.

The changes to the originally proposed system will place greater reliance on equalization of plant loadings, and on haulage of high-strength wastes off-site, compared to the original plan. In addition to the BOD_5/TSS loading benefits from the increase in equalization tank capacity, the larger equalization tank is also intended to increase the opportunity for self-neutralization by means of mixing low and high pH CIP wastewaters. Carbon dioxide sparging will be retained for pH neutralization.

The decision to abandon an upgrade of the DAF system chemistry was taken after consideration of a number of factors. It had been long recognized that the effective operation of the DAF system was only possible if the pH of the influent were adjusted to a region of between 5.0 and 6.5 pH units. As CIP water is predominantly basic, adjustment to the optimum pH required application of significant amounts of strong acid. An inability to control the application rate of the strong acid resulted in a number of incidents in which effluent of extraordinarily low pH was discharged to the City of Lynden POTW in the early 1990's. Elimination of routine operation of the DAF system is expected to eliminate or greatly reduce the likelihood of uncontrolled acid application rates.

An analysis of the potential for removal of BOD was also considered in the decision to utilize the DAF system only as a backup system. One hundred pounds of whole milk contains approximately 9.9 pounds of BOD_5, of which approximately 3.25 pounds is due to lactose. Even

if the DAF system were to be operated in the most efficient manner using adjustment to optimal low pHs, the system would be ineffective for removal of milk sugars (mainly consisting of lactose). In addition, as only a subset of milk protein, predominantly the caseins, which compose approximately 80 percent of the milk proteins, are amenable to coagulation, the remainder of the proteins is not effectively removed by means of the DAF process. Based on a typical whole milk assay of 3.7 percent fat, 3.0 percent protein, and 5.0 percent lactose, an operating DAF system achieving 100 percent removal of compounds subject to coagulation could be expected to remove approximately two thirds of the BOD present.

IMPROVEMENTS TO WESTFARM FOODS MILK PROCESSING PLANT UNDERTAKEN

In addition to the upgrade of the equalization\pretreatment system, WestFarm Foods has undertaken an upgrade to its milk processing plant which is expected to result in a reduction of BOD and TSS loadings to the industrial wastewater stream. These upgrades include:

- The capacity of the relatively efficient Wiegand-Rogers evaporator was upgraded by approximately 25 percent during the winter of 2005/2006. This change will enable the elimination of the relatively inefficient Blaw Knox evaporator. The cooling tower heat load and the warm condensate discharge from the Blaw Knox evaporator will be eliminated.

- The milk processing system has been streamlined by consolidating the two existing parallel systems into a single system. This change will eliminate hundreds of feet of pipe, three balance tanks, one large heat exchanger, and many pumps and valves, which now require daily clean-in-place operations. The change will also enable more heat to be recovered from the cow water.

- PLC (Programmable Logic Circuit) upgrades for the raw milk processing system and the ’88 dryer will result in centralized monitoring and control which will be integrated with the monitoring and control functions associated with the pretreatment system.

- Installation of a new CIP system in raw receiving will replace the existing system. The new system will employ modern controls, which are expected to improve the efficiency with respect to water, chemical, and energy usage.

In addition, WestFarm Foods is in the planning stages for a cow water reclamation and reuse system, which is intended to recover evaporator condensate for use throughout plant for cleaning, enabling a reduction in use of city water. Use of cow water for clean-in-place operations could be expected to result in a reduction of the volume of direct discharge of cow water to the Nooksack River. This project is tentatively scheduled for completion in 2006.

OUTFALL FOR DIRECT DISCHARGE

The cooling/cow water temperature sampling/compliance point is located at the manhole in the street outside the WFF office building at a point approximately 45 feet WSW of the SW corner of the office building.

The cow water/noncontact cooling water joins the City of Lynden POTW effluent outfall at a point downstream of all treatment and disinfection processes. Ultimately, the cow water/noncontact cooling water is discharged through the City of Lynden POTW outfall, which consists of 166 feet of 20-inch diameter ductile iron pipe. Over time, the gravel bar on the south side of the river has grown to the point where it has overridden the south diffuser lateral and plugged some of the diffuser ports. As a result, the end cap of one of the laterals was removed to restore the hydraulic capacity. Thus, the current configuration of the outfall is essentially an open-ended, 20-inch diameter pipe.

The outfall was originally designed for a peak flow rate of 5.0 mgd, including 4.0 mgd peak hour flow from the wastewater plant and an additional 1.0 mgd from WFF.

CITY OF LYNDEN POTW

The City of Lynden maintains a sewage treatment plant consisting of two oxidation ditches and two secondary clarifiers. Effluent BOD_5 and TSS concentrations are normally in the range of 5 to 15 mg/L for each of these parameters. The plant has generally operated well, with the notable exceptions of upset conditions mainly related to spills from the WFF plant. In the early 1990's, prior to the abandonment of DAF operations and the installation of carbon dioxide pH controls, pH excursions appeared to be the most significant cause of severe operational regularities at the City of Lynden POTW. Following those changes, the most significant cause of upset conditions have been slug loads (uncharacteristically large discharges) of BOD_5 and TSS to the POTW, often the result of product (for example, cream, raw milk) spills. (The term "upset conditions," as opposed to "upset" is used in this context to refer to situations in which the City of Lynden had to take extraordinary operational steps at the plant to maintain compliance with City of Lynden NPDES permit limits at the plant due to heavy industrial loadings or variations in pH).

Prior to October 2003, the City of Lynden POTW plant was considered by the Department to have a rated capacity of 7000 pounds per day of BOD_5, based on a rating of 3500 pounds for each of the two oxidation ditches. The biotower, which was originally rated at 5000 pounds per day BOD_5 removal, is no longer in operation.

Under the City of Lynden's NPDES permit (as modified in October 2003), the capacity of the City of Lynden treatment plant is rated at 9114 pounds per day BOD_5. The plant's capacity was re-rated in October 2003 as a result of an analysis of plant aeration capacity, which was determined to be the limiting factor on plant capacity at the time.

In August of 2004, a number of significant modifications to the plant had been completed. The modifications included new clarifiers, establishment of a front-end anoxic zone and UV disinfection. As the processes affected by the modifications have not been determined to be capacity-limiting, there has been no re-rating of plant capacity based on the August 2004 modifications. However, the City of Lynden has retained a consultant to reevaluate plant capacity, as part of the development of a comprehensive sewer plan.

PERMIT STATUS

An NPDES permit was issued to WFF (then Darigold) on August 20, 1982. In addition to the direct discharge to the Nooksack River, the permit contained the following limitations for discharge to the sanitary sewer:

250,000 gallons per day maximum flow
2,000 pounds per day BOD_5
600 pounds per day TSS

The NPDES permit issued to WFF (then Darigold) in 1982 expired on August 20, 1984. The NPDES permit in effect prior to September 1994 authorized an indirect discharge flow of 250,000 gpd and a BOD of 2,000 gpd and suspended solids of 250 pounds per day.

The permit for this facility issued on September 13, 1994, contained effluent limitations on indirect discharge flow (226,000 gpd/316,000 gpd depending on season), BOD_5 (5011/5300 pounds per day depending on season), TSS (1460 pounds per day), and pH. In addition, the permit contained a direct discharge limitation of 1.0 mgd for flow, and temperature limitations of 86 degrees Fahrenheit (winter) and 74 degrees Fahrenheit (summer).

The permit limitations appearing in the 1994 WFF (then Darigold) permit were seasonal due to the difference between the POTW capacity allocated to infiltration and inflow during the summer and winter months, as well as the allocation of a portion of the seasonally unused Carriage House Foods allocation. In addition, WFF (then Darigold) leased a portion of the Versacold/Ocean Spray capacity in order to increase the limitations over those appearing in the previous permit.

The existing extended NPDES permit was issued to WestFarm Foods on June 21, 2002, with an expiration date of June 30, 2005. The limitations appearing in the permit are shown in the table in the section of this fact sheet entitled "*Proposed Permit Limitations.*" The interim limitations in the proposed permit reflect the limitations in the existing permit. The permit was modified on March 24, 2004, to delay the deadline for submittal of the receiving water temperature study from June 15, 2004, to March 15, 2005, as the Department considered that the labor dispute resulting in reduced flows to the Nooksack River constituted a *force majeure* with respect to completion of the sampling required for the report.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The WestFarm Foods – Lynden plant was last inspected by the Department in September 19, 2001.

On October 30, 1998, WFF was issued an NOV for being the probable cause of interference and upsets at the City of Lynden POTW. The finding was based on nineteen different incidents cited by the Department. The incidents occurred in a period between February 1997 and September 1998.

On November 25, 1998, WFF was issued an NOV for violations of the indirect discharge BOD_5 limitations (July, August, and September 1998) and violations of TSS limitations (July and September 1998). In addition, the NOV referred to violations of temperature standards for its direct discharge (August 1998).

On February 5, 1999, WFF was issued an Administrative Order to hardpipe the tanker receiving area to the main sump no later than September 1, 1999. WFF subsequently completed this requirement in the summer of 1999. The same order contained the requirement that WFF submit to the Department, no later than June 1, 1999, an adequate spill/slug plan.

On March 26, 1999, WFF was issued an NOV for a January 1999 exceedance of the TSS limitation (indirect discharge) in the permit.

On May 28, 1999, the Department issued WFF a Notice of Correction for an indirect discharge flow exceedance which occurred on March 25, 1999, in which records indicated a discharge of 227,000 gpd.

Notice of Violation Number DE99WQNR-87 was issued to Darigold on January 14, 2000, for a violation involving the discharge of approximately 11,000 pounds per day of BOD in May 1999. Concurrently, Notice of Penalty Number DE 99WQNR-87 was issued for this violation. The penalty was appealed and reduced, by means of a settlement, to a sum of $2000 under a stipulation of no further violations.

On May 5, 2000, Notice of Violation Number 99WQNR-76 was issued to WestFarm Foods for a pH violation involving indirect discharge of wastewater with a pH of 2.0 in July 1999. WestFarm Foods described the cause in its written response to the Notice of Violation, as being due to an operator overfilling a 55-gallon drum with acid. The recirculation pump was started in order to direct the flow back to the equalization tank, but the pump was unable to keep up with the flow volume which was occurring at that time. A penalty was not issued as the recorder chart supplied by Darigold indicated that the out-of compliance condition lasted for less than fifteen minutes.

On September 5, 2001, WFF experienced a milk spill of between 10,000 and 20,000 gallons at its milk receiving station. A Notice of Violation and Notice of Penalty were issued by the Department as a result of this violation.

Notice of Violation Number DE 01WQNR-3432 was issued to Darigold on February 1, 2002, for a spill resulting in release of approximately 11,000 pounds of BOD_5 and 10,000 pounds of TSS. The spill caused a significant increase in BOD_5 effluent values at the City of Lynden POTW and possible violation of NPDES permit standards. A conclusive demonstration of plant interference could not be made due to the fact that POTW effluent values were elevated to the point of making the standard dilutions made for effluent sample analysis inadequate to achieve a reliable BOD_5 concentration determination. Concurrent with this Notice of Violation, the Department issued Notice of Penalty Number DE01 WQNR-3431 for a sum of $12,000.

On February 26, 2004, the Department issued Notice of Violation Number DE 04WQNR-6003 to WestFarm Foods for violations of permit discharge standards which occurred between December 2001 and September 2003. The violations cited in this Notice of Violation are listed in the table below:

Summary of Violations Cited in NOV Number DE 04WQNR-6003 Issued on February 26, 2004			
Month/Year	**Parameter**	**Number of Violations Cited in Notice of Violation**	**Direct/ Indirect Discharge**
December 2001	Flow	1	I
	TSS	1	I
February 2002	Flow	1	I
March 2002	Flow	1	I
	pH	1	I
April 2002	Flow	1	I
May 2002	pH	1	I
June 2002	pH	1	I
	TSS	1	I
July 2002	Total Ammonia Nitrogen (Failure to Report)	1	D
	Flow	1	I
	TSS	1	I
September 2002	BOD_5	1	I
October 2002	Flow	1	I
	TSS	1	I
November 2002	Flow	1	I
	pH	1	I
December 2002	BOD_5	1	I
February 2003	pH	1	I
March 2003	pH	1	I
April 2003	pH	1	I
May 2003	pH	1	I
July 2003	pH	1	I
September 2003	BOD_5	1	I

WestFarm Foods responded to the February 26, 2004, Notice of Violation in its letter of March 26, 2004, in which WestFarm Foods described circumstances of violations and proposed measures to prevent future violations. In its response, WestFarm Foods made assertions to support its position that some violations alleged in the Notice of Violation did not occur, or were not caused by WestFarm Foods.

A meeting was held between the Department and WestFarm Foods' staff on April 23, 2004. As a result of the meeting, WestFarm Foods proposed that it submit an engineering report for an upgrade of their industrial pretreatment system. The Department informally agreed to defer penalties associated with that Notice of Violation, provided that WestFarm Foods submit an approvable engineering report in a timely fashion and implement the changes proposed in the engineering report in a timely fashion. WestFarm Foods submitted a stamped engineering report on October 28, 2004, and the Department approved the engineering report as a conceptual engineering report on November 17, 2004.

On July 1, 2005, the Department issued Administrative Order No. 2545 to WestFarm Foods. The administrative order closed out the Notice of Violation issued on February 26, 2004. However, due to a pattern of numerous violations of permit limitations after September 2003, the Department also issued a number of required corrective actions in the administrative order. The corrective actions named in the administrative order included a requirement to complete startup of WestFarm Foods proposed changes in their pretreatment/equalization system by December 1, 2005. The order also contained requirements to comply with certain sampling and reporting requirements of their NPDES permit.

During the year following the April 23, 2004, meeting, a large number of violations of permit standards and requirements occurred, some of which adversely affected the operation of the City of Lynden wastewater treatment plant occurred. Although the Department recognized that WestFarm Foods would require time to implement engineering solutions to its compliance problems, the Department concluded that the breadth and scale of the additional violations was of such a nature as to indicate that WestFarm Foods was not adopting reasonable interim measures to control permit violations. Therefore, on August 3, 2005, the Department issued Notice of Violation No. 2606 to WestFarm Foods for violations of permit standards, as well as violations of reporting and monitoring requirements, which occurred during the period October 2003 through the middle of May 2005. The violations covered in this Notice of Violation are summarized in the table below. (WestFarm Foods would later assert that delayed approval of its amended engineering report was in part responsible for its failure to implement engineering solutions in a timely manner, despite the fact that WestFarm Foods proceeded in a timely manner to proceed with procurement and construction of its plant in accordance with the amended engineering report, following verbal notification from the Department that the amended report was deemed approvable. WestFarm Foods proceeded with procurement and construction of the upgrades prior to approval of the engineering report with the full knowledge and verbal approval of the Department. The completion of the upgraded plant occurred at a later date (early 2006) than that required in the associated administrative order, largely due to circumstances beyond the control of WestFarm Foods, namely a delay in procurement of the main equalization tank. The last violations which were cited in the Notice of Penalty (summarized in the table below) were those of April 2005, which were not associated with delayed approval of the amended engineering report. The amended engineering report was received by the Department on July 15, 2005, and approved by the Department on December 28, 2005.)

Summary of Violations Cited in NOV Number 2606 Issued on August 3, 2005			
Month/Year	**Parameter**	**Number of Violations Cited in Notice of Violation**	**Direct/Indirect Discharge**
October 2003	Flow	1	I
	BOD_5	1	I
November 2003	Flow	1	I
	TSS	1	I
January 2004	Flow	1	I
	pH	1	I
March 2004	Temperature	1	D
	pH	1	I
	TSS	1	I
April 2004	Temperature	1	D
	pH	1	I
May 2004	Temperature	1	D

Summary of Violations Cited in NOV Number 2606 Issued on August 3, 2005			
Month/Year	**Parameter**	**Number of Violations Cited in Notice of Violation**	**Direct/Indirect Discharge**
	pH	1	I
June 2004	pH	1	D
	Temperature	1	D
	pH	2	I
July 2004	pH	1	D
	Temperature	1	D
	Flow	1	I
	pH	2	I
August 2004	pH	1	D
	Temperature	1	D
	Flow	1	I
	pH	2	I
	Failure to Monitor	2	I
September 2004	pH	1	D
	Temperature	1	D
	Failure to Monitor	4	I
	pH	2	I
October 2004	pH	2	I
	Flow	1	I
November 2004	pH	1	I
	Flow	1	I
	Failure to Monitor	2	I
December 2004	pH	1	D
	Flow	1	I
	BOD_5	2	I
	TSS	2	I
	Reporting	3	I
January 2005	pH	4	I
	Failure to Monitor	3	I
	Non-Representative Sample	6	I
February 2005	Flow	2	I
	pH	9	I
March 2005	Flow	5	I
	TSS	2	I
April 2005	Flow	6	I
	Failure to Monitor	2	I
May 2005	Flow	6	I
	TSS	2	I
	Reporting	2	I
	Non-Representative Sample	2	I
October 2003-April 2005	Failure to Submit Copies of DMRs to City of Lynden	19	I&D

WestFarm Foods submitted a response to the Notice of Violation explaining steps it had taken with regard to the engineering upgrades to the plant and providing certain assertions regarding the alleged violations.

A Notice of Penalty was issued for the amount of $60,000 on December 20, 2005.

WASTEWATER CHARACTERIZATION

The wastewater characterization for the indirect flow, BOD_5 loadings, and TSS loadings is shown in the table below. The data has been taken from the discharge monitoring reports submitted by WestFarm Foods. Therefore, the data is based on daily maximum data reported for each month.

Effluent Characterization for WestFarm Foods Indirect Discharge for September 2003 through March 2005

	Flow Minimum (gallons per day)	Flow Maximum (gallons per day)	Flow Average (gallons per day)	BOD_5 Minimum (pounds per day)	BOD_5 Maximum (pounds per day)	BOD_5 Average (pounds per day)	TSS Minimum (pounds per day)	TSS Maximum (pounds per day)	TSS Average (pounds per day)
September 2003	140,000	220,000	180,000	916	7,121	1,854	354	1,304	705
October 2003	130,000	300,000	190,000	242	5,718	2,250	324	1,287	817
November 2003	100,000	320,000	180,000	1,049	4,170	2,146	299	4,064	844
December 2003	130,000	230,000	170,000	612	2,097	7,279	313	1,278	675
January 2004	130,000	240,000	180,000	910	3,223	1,818	296	1,571	701
February 2004	100,000	200,000	160,000	998	4,552	1,995	387	1,294	647
March 2004	130,000	220,000	190,000	1,503	5,139	2,549	442	2,070	824
April 2004	140,000	220,000	180,000	1,184	4,936	2015	467	1,802	790
May 2004	160,000	310,000	200,000	1,146	3,854	1,899	330	1,114	594
June 2004	140,000	220,000	190,000	1,175	3,511	2,102	398	967	678
July 2004	160,000	260,000	200,000	564	3,162	1,494	384	1,279	709
August 2004	110,000	280,000	190,000	1,138	3,379	1,803	346	1,242	689
September 2004	140,000	250,000	190,000	501	3,146	1,414	355	1,317	716
October 2004	160,000	290,000	210,000	660	7,224	1,750	290	1,753	760
November 2004	160,000	250,000	200,000	1,007	2,839	1,769	0	1,816	701
December 2004	170,000	260,000	210,000	220	11,109	2,310	183	2,457	743
January 2005	180,000	260,000	210,000	875	3,357	1,760	430	1,673	783
February 2005	170,000	240,000	210,000	1,144	2,932	1,851	314	914	567
March 2005	180,000	250,000	210,000	216	3,512	2,019	369	1,890	888
Average	143,684	253,684	192,105	845	4,473	2,215	331	1,636	728

The wastewater characterization for the direct discharge flow, temperature, pH, and ammonia nitrogen is shown in the table below. The data has been taken from the spreadsheet prepared by the City of Lynden which is submitted by WestFarm Foods with the monthly discharge monitoring reports. Therefore, the data is based on individual daily data (as opposed to the maximum for each month).

Effluent Characterization for WestFarm Foods Direct Discharge for December 2003 through May 2005					
	Flow (mgd)	Temperature (degrees Fahrenheit)	pH minimum	pH maximum	Ammonia Nitrogen (mg/L, as N)
December 2003	0.850	77	7.4	7.8	ND
January 2004	0.870	85	7.5	7.3	ND
February 2004	0.540	85	7.5	7.3	ND
March 2004	0.942	95	7.0	7.0	0.37
April 2004	0.965	87	7.0	7.9	0.39
May 2004	0.945	94	6.9	7.7	ND
June 2004	0.801	88	6.0	6.5	ND
July 2004	0.704	78	6.0	6.5	0.53
August 2004	0.532	75	6.0	6.2	ND
September 2004	0.736	76	6.0	6.0	ND
October 2004	0.559	77	6.5	7.3	ND
November 2004	0.457	77	6.5	7.2	0.05
December 2004	0.451	74	6.0	7.5	ND
January 2005	0.634	73	NR	NR	ND
February 2005	0.413	72	7.2	7.7	ND
March 2005	0.418	81	7.3	7.6	0.44
April 2005	0.443	73	7.4	8.0	ND
May 2005	0.446	76	7.4	7.8	ND
Minimum	0.413	72	6.0	6.0	0.05
Maximum	0.965	95	7.5	8.0	0.53
Average	0.650	80.2	NM	NM	0.36
NR=not reported					
ND=no data (not monitored)					
NM=not meaningful					

SEPA COMPLIANCE

The plant and related permit for this facility are preexisting and therefore are exempt from SEPA requirements for a checklist or environmental impact statement.

PROPOSED PERMIT LIMITATIONS—DIRECT DISCHARGE

Federal and state regulations require that effluent limitations set forth in an NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the surface water quality standards (chapter 173-201A WAC), ground water standards (chapter 173-200 WAC), sediment quality standards (chapter 173-204 WAC), or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. The Department does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent**.** Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation**.** Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

Pollutant Parameter	Limitations in Existing Permit–Sample Point 001 (effective October through May)	Limitations in Existing Permit–Sample Point 002 (effective June through September)	Limitations in Proposed Permit–Sample Point 001 (effective throughout the year)
Flow, daily maximum, mgd	1.0	1.0	1.0
Temperature, degrees Fahrenheit	86	74	80
TSS, daily maximum, mg/L	Monitoring-only	Monitoring-only	Monitoring-only
BOD_5, daily maximum, mg/L	Monitoring-only	Monitoring-only	Monitoring-only
Ammonia Nitrogen (as N), mg/L	Monitoring-only	Monitoring-only	Monitoring-only
pH, standard units	Not outside the range of 6.5 to 8.5	Not outside the range of 6.5 to 8.5	Not outside the range of 6.5 to 8.5

A comparison of the indirect discharge limitations in the existing and proposed permit are shown in a table in the section of this fact sheet entitled,"*Proposed Permit Limitations - Indirect Discharge."*

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established surface water quality standards. The Washington State Surface Water Quality Standards (chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual wasteload allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the Washington State's water quality standards for surface waters (chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the water quality standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA, 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the state of Washington.

ANTIDEGRADATION

The Washington State's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the Washington State's Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic waterbody uses.

MIXING ZONES

The water quality standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be

authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control, and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100. The existing (extended) permit contains a requirement that the Permittee conduct a Receiving Water and Effluent Study for Temperature and a Mixing Zone Study for Temperature. The Permittee has submitted the results of its study, and has responded to the certain comments made by the Department regarding technical aspects of the study.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

REQUIREMENT FOR RECEIVING WATER AND EFFLUENT STUDY FOR TEMPERATURE AND EFFLUENT MIXING STUDY FOR TEMPERATURE IN THE EXISTING PERMIT

Part S11 of the NPDES permit issued to WestFarm Foods on June 21, 2002, contained the requirement that the Permittee submit the results of a receiving water study for temperature for the Nooksack River no later than June 15, 2004. The requirements of the study included sampling of the Nooksack River during a critical low flow period. The sampling was also required to occur at a time during which the Permittee's discharge to the Nooksack River was in the higher range of the typical discharge rate. At the scheduled time of sampling in 2003, due in part to a labor action, the flows from the Permittee's plant were at a greatly reduced flow. Shortly thereafter, river flows increased markedly. Therefore, the Permittee was unable to obtain sample results during the critical period in 2003. The Department, therefore, modified the submittal deadline for the Receiving Water and Effluent Study for Temperature, to enable sampling during the critical period in 2004.

The existing permit was modified on March 24, 2005, in order to change the deadline date for submittal of the Receiving Water and Effluent Study for Temperature from June 15, 2004, to March 15, 2005. This resulted in a required submittal date for that report, which is the same as the submittal date for the related Effluent Mixing Study for Temperature in the permit prior to modification.

STATUS OF RECEIVING WATER AND EFFLUENT STUDY FOR TEMPERATURE AND EFFLUENT MIXING STUDY FOR TEMPERATURE

On March 18, 2003, WestFarm Foods submitted a study plan for the "*Receiving Water and Effluent Study for Temperature* and the *Effluent Mixing Study for Temperature."*

On May 29, 2003, the Department sent a letter to WestFarm Foods, in which it approved the study plan with the provision that the Permittee include certain elements in the study, including a dye study, use of a buoyant plume model, modeling consistent with the current configuration of the outfall, a condition related to the location of background temperature measurement, and comparison of calculated dilution factors with the maximum allowable dilution factor under state regulations.

WestFarm Foods submitted the report entitled, *"Temperature and Mixing Zone Study–October 2004"* in the fall of 2004.

On May 20, 2005, the Department sent a letter to WestFarm Foods containing the Department's comments on the "*Temperature and Mixing Zone Study–October 2004*" submitted by WestFarm Foods. In the letter, the Department requested that WestFarm Foods respond to the Department's comments by August 15, 2005. The Department's comments were largely with respect to the following topics:

- Discrepancy between location of maximum temperature and location of maximum dye concentration.
- Discrepancy of obtaining a higher dilution factor for a non-conservative pollutant.
- Use of average temperatures versus use of maximum dye concentrations.
- Inconsistency of the assumption of rapid vertical mixing under RIVPLUME model with CORMIX1 results.
- Comments on the use of CORMIX1 for a single submerged port.
- Impact of increased domestic flows to the City of Lynden POTW should be considered.
- Clarification needed regarding possible relocation of outfall.
- Reassessment needed for dilution factors if POTW and WestFarm Foods outfalls become separate.

On July 7, 2005, WestFarm Foods responded to the comments contained in the Department's comment letter of May 20, 2005. WestFarm Foods, while not conceding to the Department's arguments, noted that their field studies had demonstrated compliance with temperature standards under both the 37:1 dilution factor recommended by the Department, and the 47:1 dilution factor recommended by WestFarm Foods. Therefore, while not conceding to any of the Department's arguments, WestFarm Foods determined that it would accept the Department's proposed use of a dilution factor of 37:1 in the determination of a temperature limitation in the proposed permit. In addition, the Department recommended that WestFarm Foods modify the mixing zone study to account for future flow or outfall modifications by the City of Lynden. WestFarm Foods responded that it would not modify the mixing zone study, as the City of Lynden has made no firm plans regarding such future flow or outfall modifications. WestFarm Foods noted in their letter, that the City of Lynden is currently conducting wastewater facilities planning for a 20-year planning horizon, and concluded that, in any event, it is very unlikely that the City would take any action which would change the discharge conditions within the term of WestFarm Foods proposed NPDES permit. WestFarm Foods' comment was forwarded to the Department's water quality modeling specialist, Mr. Anise Ahmed, for review. Based on Mr. Ahmed's review, a dilution factor of 37:1 was determined to be acceptable for use in the permit.

The temperature receiving water and mixing zone study support authorizing higher water quality-based limits for temperature. Therefore, the Department intends to reissue the proposed NPDES permit with a performance-based temperature limitation. The performance-based limitation is intended to be consistent with state AKART requirements.

DESCRIPTION OF THE RECEIVING WATER

The facility discharges cow-water, noncontact cooling water, and storm water to the Nooksack River. The facility also discharges storm water to Fishtrap Creek. Both of the receiving waters (the Nooksack River and Fishtrap Creek) are classified as Class A receiving waters in the vicinity of their respective outfalls from WestFarm Foods.

Other nearby point source outfalls include the City of Lynden POTW. Significant nearby non-point sources of pollutants include storm water from the City of Lynden, as well as numerous dairy farms. In addition, the lower Nooksack Valley is the site of numerous dairy farms, which impact the Nooksack River, mainly through manure runoff. Agricultural irrigation and stormwater runoff from crops such as raspberries, hay, and corn are also factors. Designated uses of the Nooksack River and Fishtrap Creek include the following: water supply (domestic, industrial, agricultural); stock watering; fish migration; fish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating, and aesthetic enjoyment; and navigation. Water quality of this class shall markedly and uniformly exceed the requirements for all or substantially all uses.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA, 1992). Criteria for this discharge are summarized below:

Fecal Coliforms	100 organisms/100 mL maximum geometric mean No more than 10 percent of the samples to exceed 200 organisms/100 mL. (The Total Maximum Daily Loading allocation study established a target geometric mean of 39 organisms/100 mL as necessary to meet the portion of the criterion that no more than 10 percent of the samples exceed 200 organisms/100 mL.)
Dissolved Oxygen	8 mg/L minimum
Temperature	17.5 degrees Celsius maximum or incremental increases above background
pH	6.5 to 8.5 standard units
Turbidity	less than 5 NTU above background
Toxics	No toxics in toxic amounts (see Appendix C for numeric criteria for toxics of concern for this discharge)

The direct discharge of industrial wastewater other than stormwater from WestFarm Foods consists mainly of cow water (the water evaporated from milk during the drying process), and noncontact cooling water. Due to the nature of this process, temperature, and pH are considered to be the main potential pollutants of concern. In addition, the direct discharge wastewater contains ammonia-nitrogen, typically at values less than 1 mg/L. An evaluation of the potential of the ammonia nitrogen to cause aquatic toxicity is described below.

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

The Department plans to issue the proposed permit with a temperature limitation in accordance with its evaluation of "*Receiving Water and Effluent Study for Temperature* and the *Effluent Mixing Study for Temperature," as well as a technology-based determination consistent with AKART requirements. The most stringent of the two criteria was used to determine the temperature limitation.*

BOD_5—This discharge with technology-based limitations results in a small amount of BOD loading relative to the large amount of dilution occurring in the receiving water at critical conditions. BOD_5 values are typically well below 5 mg/L in the direct discharge effluent from WestFarm Foods. Therefore, monitoring-only is required for BOD_5. Technology-based limitations will be protective of dissolved oxygen criteria in the receiving water.

pH—The pH limitation for the direct discharge portion of the effluent is based on the state surface water quality criteria with no provision for a dilution zone.

Turbidity—Due to the nature of the direct discharge (cow water and noncontact cooling water), turbidity standards are not expected to be exceeded by the discharge. Therefore, no numerical turbidity limitations have been placed in the permit.

Toxic Pollutants—Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not exempted from meeting the water quality standards for surface waters or from having surface water quality-based effluent limits. The only toxic pollutant identified in the wastewater from the WestFarm Foods plant which may be present in toxic amounts is ammonia-nitrogen. An evaluation was made of the potential to exceed water quality criteria, and it was determined that the ammonia concentrations present in the water have a low reasonable potential to cause toxic effects in the receiving water. Therefore, continued monitoring of ammonia is required in the proposed permit.

WHOLE EFFLUENT TOXICITY

The water quality standards for surface waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing.

Due to the nature of the direct discharge effluent (cow water and noncontact cooling water), the only pollutant potentially present in toxic amounts is ammonia-nitrogen. Whole effluent toxicity is intended mainly to evaluate toxicity due to multiple toxic substances present in a discharge. Therefore, the Department has decided to evaluate the potential for ammonia toxicity on a site-specific basis, and establish a numerical effluent limitation for ammonia if the potential to produce toxic effects was determined to be reasonably present. Therefore, the Department has decided not to require whole effluent toxicity monitoring as a provision of the proposed permit.

Toxicity caused by unidentified pollutants is not expected in the effluent from this discharge as determined by the screening criteria given in chapter 173-205 WAC. Therefore, no whole effluent toxicity testing is required in this permit. The Department may require effluent toxicity testing in the future if it receives information that toxicity may be present in this effluent.

DETERMINATION OF WATER QUALITY-BASED TEMPERATURE LIMITATION

Temperature—A mixing zone study was conducted with the object establishing a mixing zone and associated dilution factor to be used for establishment of a water quality-based limitation for temperature. The study, entitled *WestFarm Foods Temperature and Mixing Zone Study* was submitted in October 2004. Following communications between Anise Ahmed and WestFarm Foods as documented in Mr. Ahmed's memorandum of April 11, 2005, and WestFarm Foods letter of July 6, 2005, the Department decided to employ a dilution factor of 37:1. This dilution factor was developed based on critical flow (7Q10) of 1080 cubic feet per second and critical (maximum) ambient (upstream) temperature conditions. The ambient temperature employed in the mixing study was 13.5 degrees Celsius.

The output of the RIVPLUM5 model used in the mixing zone study was then used to model the impact of temperature using spreadsheet developed by Mark Hicks of the Department of Ecology. The input variables were dilution factor of 37, upstream temperature of 13.5 degrees Celsius, and a water quality standard of 17.5^{o}C. The water quality criterion for temperature, of 17.5^{o}C was based on the classification of the Nooksack River, under the 2003 Surface Water Quality Standards as having the following designated uses: Salmon and Trout Spawning, Non-Core Rearing, and migration. As a result of the analysis, a water quality-based limitation of 33^{o}C (daily maximum), has been placed in the proposed permit.

DETERMINATION OF TECHNOLOGY-BASED TEMPERATURE LIMITATIONS

The technology-based permit limitation for temperature in the proposed permit was developed by applying the methodology recommended in Appendix E of *Technical Support Document for Water Quality-Based Toxics Control* (USEPA 1991). The daily maximum temperature data reported on the Discharge Monitoring Reports for the summer months (July through September 2004 and June through September 2005) was used in the analysis. The data from the summer months was employed as these are the months during which the plant could be expected to be operated at its maximum cooling efficiency. The limitation of 80 degrees Fahrenheit (daily maximum) in the proposed permit was based on the upper 99th percentile of the log-normal distribution of the daily maximum temperature data as reported on the Discharge Monitoring Reports.

EVALUATION OF POTENTIAL FOR DIRECT DISCHARGE EXCEEDANCE OF AMMONIA CRITERIA FOR FRESH WATER

Raw milk contains significant concentrations of ammonia nitrogen (ammonia and ammonium ions quantified in terms of their nitrogen content). Due to the fact that ammonia nitrogen can be carried over with a distillate, mainly depending on pH conditions during condensation, the presence of some ammonia nitrogen in cow water distillate would not be unexpected.

Based on information submitted in WFF's application, the maximum daily concentration of ammonia nitrogen measured in the cow water/cooling direct discharge effluent was 0.34 mg/L. This measured value is well below the state water quality criteria for the applicable range of temperatures as calculated below. The temperatures of 15 degrees and 20 degrees Celsius were used for the calculations as these temperatures are specified for determination of ammonia standards for chronic and acute conditions, respectively, for salmonid-bearing streams. In addition, for sensitivity analysis purposes, criteria at an unusually high temperature (27 degrees Celsius) were also calculated, as the criteria become lower (more stringent) with higher temperatures. The ammonia nitrogen criteria for the entire applicable range of temperatures appear to be well-above the highest value measured by WFF. Therefore, a limitation for ammonia nitrogen has not been placed in the proposed permit. The proposed quarterly monitoring frequency for ammonia nitrogen is intended to serve as a periodic check to indicate if ammonia concentrations in the direct discharge effluent reach a level of concern. The proposed permit will require monitoring one time each three (3) months. This data acquired from the quarterly monitoring will be used in order to determine whether more frequent monitoring becomes necessary in the future. The daily average chronic criterion at twenty degrees is included as the daily maximum ammonia-nitrogen criterion. The rationale for using ammonia nitrogen as a limitation, rather than the un-ionized subset, is that final equilibrium of this most toxic of the two compounds will be determined mainly by the pH in the Nooksack <u>after</u> mixing.

AMMONIA NITROGEN CRITERIA AT SELECTED TEMPERATURES		
Temperature, degrees Celsius	**Chronic Ammonia-Nitrogen Criterion (mg/L)**	**Acute Ammonia Nitrogen Criterion (mg/L)**
10	2.19	16.8
15	2.10	16.2
20	1.45	15.8
27	0.89	9.6

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established surface water quality standards. The Washington State Surface Water Quality Standards (chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

PROPOSED PERMIT LIMITATIONS—INDIRECT DISCHARGE

<u>Daily Maximum BOD_5 Limitation for Indirect Discharge for the Proposed Permit</u>

The City of Lynden's letter of December 20, 1999, contained an industrial wastewater allocation for WFF of 4500 pounds per day for BOD_5. The City of Lynden subsequently consented to the issuance of a permit to Versacold with a BOD_5 limitation of 400 pounds per day. The BOD_5 limitation in the existing permit is 4500 pounds per day based on a two-day average. The basis for the limitation in the existing permit is the City's 4500 pounds per day limitation to WFF, less the 400 pounds per day limitation in the Versacold permit, plus 400 pounds per day from the allocation made by the City to reserve capacity.

The daily maximum BOD_5 limitation in the public notice of draft of the proposed permit was based on a recommendation contained in the, *"City of Lynden Wastewater Treatment Plant Capacity Allocation for Industrial Discharges, June 23, 2005."* Under the 4500 pounds per day two-day average limitation in the existing WestFarm Foods permit, the City of Lynden POTW treatment plant experienced a number of incidents, in which the City of Lynden treatment plant experienced serious operational problems, to the point of requiring City personnel to take extraordinary measures to prevent violations of the City of Lynden's NPDES permit. A number of these incidents occurred during times of heavy BOD loadings from the WestFarm Foods plant, which were, nevertheless in compliance with the indirect discharge provisions of the WestFarm Foods NPDES permit. The City of Lynden, and its consultant came to the conclusion that the two-day average limitation for BOD_5 in the existing permit was insufficient to protect the City of Lynden POTW plant from heavy loadings from WestFarm Foods, which were causing serious upset incidents at the City of Lynden POTW. Following a meeting with the City of Lynden and WestFarm Foods on February 16, 2006, the City of Lynden informed the Department that its consultant had reached the conclusion that a daily maximum flow limitation of 5000 gallons per day could be sustained by the City of Lynden POTW. The Department is strongly in agreement with the recommendation of the City of Lynden's consultant to convert the basis of the daily maximum limitation from a two-day average basis to a daily maximum basis. The City of Lynden's consultant, based on an examination of treatment plant data indicated, in a letter to the Department dated April 20, 2006, that a daily maximum discharge of in-the-range of 5000 pounds of BOD_5 from the WestFarm Foods plant can be expected to be tolerated by the City of Lynden POTW. The consultant stated *"Thus, daily excursions to 5000 ppd are probably acceptable, provided the average daily BOD loading for the maximum month from WFF is less than 2000 ppd."*

MONTHLY AVERAGE BOD_5 LOADING LIMITATION FOR INDIRECT DISCHARGE FOR THE PROPOSED PERMIT

The City of Lynden in conjunction with the City's consultant has recommended that a monthly average limitation for BOD_5 be included in the proposed permit as a further means of dampening fluctuations in the BOD_5 loading to the City of Lynden POTW. The rationale for the monthly average BOD_5 limitation is two-fold.

- The POTW capacity rating for BOD_5 is based on monthly average BOD_5 loadings. The subsequent allocation of total POTW BOD_5 loading capacity is a division of the total plant monthly average capacity rating for BOD_5 loading. The inclusion of a monthly BOD_5 loading limitation will ensure that a BOD_5 limitation will be included in the permit with a basis which is consistent with assumptions used for establishing the POTW capacity rating.

- The variability of WestFarm Foods' BOD_5 loadings to the City of Lynden POTW appears to have been responsible, in large part, for serious operational problems at the City of Lynden POTW. The Department and the City of Lynden agree that inclusion of a monthly average limitation for BOD_5 loadings in the permit will provide an important incentive to WestFarm Foods to reduce the variability of discharges to the City of Lynden POTW, while still providing WestFarm Foods a considerable degree of flexibility in meeting the BOD_5 loading limitation.

The proposed monthly average BOD_5 loading limitation of 2600 pounds per day is based on a recommendation by the City of Lynden, based on consulting work performed by Berryman & Henigar, Inc. The City's consultant evaluated monthly average BOD_5 loading data for the years 2000 through 2004, and determined that the monthly average BOD_5 loading from WestFarm Foods varied between 2010 pounds per day and 2595 pounds per day. This indicates that the BOD_5 loading limitation recommended by the consultant is reasonable in the sense that its achievability has been amply demonstrated over the period comprising the years from 2000 to 2004. It is expected that the increase in equalization capacity, together with the consolidation of evaporator operations within the milk processing portion of the plant are likely to further reduce the likelihood of violations of the proposed monthly average BOD_5 loading limitation of 2600 pounds per day.

The establishment of a monthly average BOD_5 loading limitation of 2600 pounds per day has been made in the context of a total industrial user BOD_5 loading allocation of 2860 pounds per day (monthly average). The 2600 gallon per day (monthly average) BOD_5 allocation to WestFarm Foods only leaves 260 pounds per day (monthly average) of BOD_5 loading available to all remaining industrial users. The other major industrial user in the City of Lynden is Versacold, which has been assigned 1450 pounds per day of BOD_5 loading under a contract with the City of Lynden. WestFarm Foods has obtained, by means of a lease from Versacold, a portion of Versacold's BOD allocation. These limits are greater than the flow and loadings currently requested in the Versacold application for a wastewater discharge permit. The BOD_5 loading in the existing Versacold permit is 400 pounds per day. In addition, Flora, Inc., an herbal supplement manufacturer, is authorized by permit to discharge 50 pounds per day of BOD_5 (daily maximum) to the City of Lynden POTW. The engineering report entitled, "*City of Lynden Wastewater Treatment Plant Capacity Allocation for Industrial Discharges, June 23, 2005"* contained the observation that *"The leasing of flow and loading capacity by WestFarm Foods from Versacold compensates for the flow and loading deficiencies identified in the City of Lynden-WestFarm Foods agreement."*

DAILY MAXIMUM TSS LIMITATION FOR INDIRECT DISCHARGE FOR THE PROPOSED PERMIT

The TSS limitation of 1460 pounds per day two-day average in the existing WestFarm Foods permit, was based on 250 pounds per day originally allocated to WestFarm Foods, augmented by an additional 1250 pounds per day of capacity subleased from Ocean Spray/Versacold.

The daily maximum TSS limitation in the proposed permit is based on a recommendation contained in the, "*City of Lynden Wastewater Treatment Plant Capacity Allocation for Industrial Discharges, June 23, 2005."* Under the 1460 pound per day two-day average limitation in the existing WestFarm Foods permit, the City of Lynden POTW treatment plant experienced a number of incidents, in which the treatment plant experienced extreme operational difficulties to the point of requiring City personnel to take extraordinary measures to prevent violations of the City of Lynden's NPDES permit. A number of these incidents occurred during times of heavy TSS loadings (typically in conjunction with high BOD_5 loadings) from the WestFarm Foods plant, which were nevertheless, based on available sampling data, in compliance with the indirect discharge provisions of the WestFarm Foods NPDES permit. The City of Lynden and its consultant came to the conclusion that the two-day average limitation for TSS in the existing permit was insufficient to protect the City of Lynden POTW plant from heavy loadings from WestFarm Foods, which were causing serious operational difficulties at the City of Lynden

POTW. The Department is strongly in agreement with the recommendation of the City of Lynden's consultant to convert the basis of the 1460 pounds per day TSS limitation from a two-day average basis to a daily maximum basis. An examination of treatment plant data indicates that a discharge of 1460 pounds of TSS on a single day from the WestFarm Foods plant should not be expected to result in operational difficulties at the City of Lynden POTW.

MONTHLY AVERAGE TSS LOADING LIMITATION FOR INDIRECT DISCHARGE FOR THE PROPOSED PERMIT

The City of Lynden in conjunction with their consultant has recommended that a monthly average limitation for TSS loading be included in the proposed permit as a further means of dampening fluctuations in the TSS loading to the City of Lynden POTW. The rationale for the monthly average TSS limitation is two-fold.

- The POTW capacity rating is based on monthly average TSS loading. The subsequent allocation of total capacity is based on a division of the total plant monthly average capacity rating for TSS loading. The inclusion of a monthly average limitation for TSS will ensure that a TSS limitation will be included in the permit with a basis which is consistent with assumptions used for establishing the POTW capacity rating.

- The variability in WestFarm Foods' TSS and BOD loadings, to the City of Lynden POTW, has been responsible, in large part, for serious operational problems at the City of Lynden POTW. The Department and the City of Lynden agree that inclusion of a monthly average limitation in the permit for TSS will provide an important incentive to WestFarm Foods to reduce the variability of TSS discharges to the City of Lynden POTW, while still providing WestFarm Foods a considerable degree of flexibility in meeting the TSS limitation.

The monthly average TSS loading limitation of 930 pounds per day is based on a recommendation by the City of Lynden, based on consulting work performed by Berryman & Henigar, Inc. The City's consultant evaluated monthly TSS loading data for the years 2000 through 2004, and determined that the monthly average TSS loadings from the WestFarm Foods plant varied between 705 and 926 pounds per day. This indicates that the TSS loading limitation recommended by the consultant is reasonable in the sense that its achievability has been amply demonstrated over the period comprising the years from 2000 to 2004. It is expected that the increase in equalization capacity together with the consolidation of evaporator operations within the milk processing portion of the WestFarm Foods plant are likely to further reduce the likelihood of violations of the proposed monthly average TSS limitation of 930 pounds per day.

The establishment of a monthly average TSS limitation of 930 pounds per day has been made in the context of a total industrial monthly average TSS loading allocation of 1160 pounds per day (monthly average). The 930 pounds per day monthly average TSS allocation to WestFarm Foods only leaves 230 pounds per day (monthly average) available to all remaining industrial users under the allocation proposed in the above-referenced engineering report.

The report entitled, *"City of Lynden Wastewater Treatment Plant Capacity Allocation for Industrial Discharges, June 23, 2005,"* contained the observation: *"The TSS loading capacity appears to be the most limiting for future residential growth with the calculated service population of 11,500 projected to occur in year 2007."*

DAILY MAXIMUM FLOW LIMITATION FOR INDIRECT DISCHARGE FOR THE PROPOSED PERMIT

The flow limitation of 226,000 gallons per day (two-day) average in the existing WestFarm Foods NPDES permit is based on the City of Lynden letter of December 20, 1999, in which the City of Lynden presented a flow limitation of 226,000 gallons per day to WestFarm Foods. The limitation in the permit is in terms of a two-day moving average.

The document entitled, *"City of Lynden Wastewater Treatment Plant Capacity Allocation for Industrial Discharge, June 23, 2005," contains the recommendation that the two-day average limitation for flow of 226,000 gallons per day in the existing permit be changed to a daily maximum limitation of 226,000 gallons.*

Following discussions between WestFarm Foods, and the City of Lynden, the City of Lynden through its consultant determined that a daily maximum limitation of 245,875 gallons per day would be justified. This determination was made available to the Department in the City of Lynden's letter of October 24, 2005. The Department rounded up the 245,875 gallons per day daily maximum flow limitation to 246,000 gallons per day in the proposed permit.

MONTHLY AVERAGE FLOW LOADING LIMITATION FOR INDIRECT DISCHARGE FOR THE PROPOSED PERMIT

The City of Lynden in conjunction with the City's consultant has recommended that a monthly average limitation for flow be included in the proposed permit as a further means of dampening fluctuations in the flow loading to the City of Lynden POTW. The rationale for the monthly average flow limitation is two-fold.

- The POTW capacity rating for flow is based on monthly average flow loadings. The subsequent allocation of total POTW flow capacity is a division of the total plant monthly average capacity rating for flow. The inclusion of a monthly flow loading limitation is intended to ensure that a flow limitation will be included in the permit with a basis which is consistent with assumptions used for establishing the POTW capacity rating.
- The variability in WestFarm Foods' loadings to the City of Lynden POTW has been responsible, in large part, for serious operational problems at the City of Lynden POTW. The Department and the City of Lynden agree that inclusion of a monthly average limitation in the permit will provide an important incentive to WestFarm Foods to reduce the variability of discharges to the City of Lynden POTW, while still providing WestFarm Foods a considerable degree of flexibility in meeting the permit limitation.

The monthly average flow limitation of 220,000 gallons per day proposed in the entity review draft of the permit was based on a recommendation by the City of Lynden, based on consulting work performed by Berryman & Henigar, Inc. The City's consultant evaluated monthly average WestFarm Foods effluent flow data for the years 2000 through 2004, and determined that the monthly average flow volume from WestFarm Foods varied between 170,000 gallons per day and 190,000 gallons per day.

Following discussions between WestFarm Foods and the City of Lynden, the City of Lynden through its consultant determined that a monthly average flow limitation of 230,000 gallons per day would be justified. This determination was made available to the Department in the City of Lynden's letter of October 24, 2005.

The establishment of a monthly average flow limitation of 230,000 gallons per day has been made in the context of a total industrial flow allocation for the City of Lynden of 280,000 gallons per day (monthly average).

REQUEST BY WESTFARM FOODS FOR INCREASE IN PROPOSED FLOW LIMITATIONS

WestFarm Foods submitted a letter on July 8, 2005, informing the Department that WestFarm Foods was in communication with the City of Lynden with a request that the *maximum daily* allocation for flow be increased to 245,875 gallons per day. WestFarm Foods noted that they have leased 45,875 gpd of capacity from Versacold.

The letter also requested that the Department consider an increase in the monthly average limitation for flow to 230,000 gallons per day, based on a monthly average discharge of 230,000 gallons per day which occurred in May 2005. As described above, the consultant used historical data as an important factor in making a recommendation for the monthly average flow limitation. The Department has considered WestFarm Foods' request and proposes flow limitations consistent with the City of Lynden's letter of October 24, 2005, in which a daily maximum flow of 245,875 gallons per day, and a monthly average flow of 230,000 gallons per day was recommended.

DETERMINATION OF pH LIMITATION FOR INDIRECT DISCHARGE

The existing permit contains a pH limitation of 6.0 to 10.0, although excursions with a duration of no greater than fifteen minutes between 3.5 and 6.0, and between 10.0 and 12.0, are authorized provided that they do not exceed a combined duration of 7 hours and 26 minutes per month. In addition, no greater than two such excursions are authorized in any single day. Furthermore, a maximum of five such excursions are authorized during any seven consecutive operating days. The upper limitation for transient pH episodes in the initial public notice draft of this permit was 12.0. This upper limitation has been changed, as it was called to the Department's attention during the public notice period, that WAC 173. 216 contains a prohibition on discharge of industrial wastewater with a pH of greater than 11.0 to POTW's.

The limitation allowing discharges with pH's between 6.0 and 10.0, is based on the City of Lynden Ordinance. The "temporary duration" sub-clause is adapted from the NPDES regulations appearing in 40 CFR Part 401.17. The City of Lynden has interpreted its own ordinance as authorizing temporary deviations from the limitation of 6.0 to 10.0. An important factor in the Department's determination to allow excursions outside the normal limitations is the extremely limited time duration for which the excursions are authorized.

The lower limitation of 3.5 pH units in the temporary duration clause of the existing permit has been changed to 5.0 pH units for the final effluent limitations in the proposed permit. The reason for this change is that USEPA Region X has informed the Department that even temporary discharges of less than 5.0 pH units to the sanitary sewer are prohibited.

COMPARISON OF LIMITATIONS IN THE PROPOSED PERMIT WITH THOSE IN THE EXISTING PERMIT (INDIRECT DISCHARGE)

COMPARISON OF INDIRECT DISCHARGE LIMITATIONS IN EXISTING AND PROPOSED PERMIT

Parameter	Limitations in Existing Permit	Limitations in Proposed Permit
Flow, daily maximum, gpd	N/A	246,000
Flow, 2-day moving average, gpd	226,000	N/A
Flow, monthly average, gpd	N/A	230,000
BOD_5, daily maximum, pounds/day	N/A	5000
BOD_5, monthly average, pounds/day	N/A	2600
BOD_5, 2-day moving average, pounds/day	4,500	N/A
TSS, daily maximum, pounds/day	N/A	1460
BOD_5, monthly average, pounds/day	N/A	930
TSS, 2-day moving average, pounds/day	1460	N/A
pH, standard units	6.0-10.0	6.0-10.0
pH, standard units, 15-minute variance	3.5-6.0, and 10.0-12.0	5.0-6.0, and 10.0-11.0

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

Cow water is the sole known source of direct discharge wastewater from the WFF plant. As the cow water is a condensate, it is unlikely to contain pathogens or mineral contaminants. Although ammonia might conceivably be present in measurable quantities, there is no human health criterion for ammonia. Therefore, the Department has determined that the applicant's discharge is unlikely to contain chemicals regulated for human health.

SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).

The condensate nature of the cow water, the sole known constituent of the direct discharge from the WFF plant, other than noncontact cooling water, makes it highly unlikely that mineral or solid material would be present in the discharge in sufficient quantities to contribute any known material to the sediment. Therefore, the Department has determined that this discharge has no reasonable potential to violate the sediment management standards.

GROUND WATER QUALITY LIMITATIONS

The Department has promulgated ground water quality standards (chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

WestFarm Foods has engaged in the disposal of skimmings from its DAF (Dissolved Air Flotation) plant by means of land application. As the DAF skimmings could reasonably be construed to be solid waste, a wastewater discharge permit was not required for this method of disposal. WestFarm Foods has begun and plans to continue to dispose of wastewater diverted to its high strength wastewater tank by means of land application. The Department has included a requirement in the proposed permit, that WestFarm Foods provide a description of its off-site wastewater disposal practices. The Department plans to use the results of the report to determine whether a state waste discharge permit is required for land application of its wastes under the current and proposed methods.

The requirement that WestFarm Foods provide a report on Land Application Practices of Solid and Liquid Wastes has been placed in the NPDES permit, despite the non-direct discharge nature of the liquid waste land disposal practices, as a result of the requirement under WAC 173-220-170, that provisions relating to discharges of pollutants which require permits from the Department of Ecology under RCW 90.48.160, as well as under an NPDES permit, "shall be contained in a single document." RCW 90.48.160 is the section under which a state waste discharge permit is required for discharges of industrial waste material into "waters of the state." Under RCW 90.48.020 the term "*underground waters*" is included in "*waters of the state*."

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring schedule is detailed in the proposed permit under Conditions S.1 and S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

Prior to late 1998, the City had monitored BOD_5 daily composite values approximately five or six days per week. Subsequent interviews with WFF staff indicated that high loadings are also likely to occur on weekend days. Therefore, the Department requested that the City begin monitoring on a seven-day per week schedule. The seven-day per week monitoring schedule was commenced in late 1998.

Constant monitoring and recording of pH of the indirect discharge effluent is cost effective and necessary to determine compliance with pH standards. The necessity of constant monitoring is a result of the great variability of WFF indirect discharge pH experienced in the past, together with the relatively limited effects of dilution in making pH-noncompliant discharges compatible with treatment at the POTW. Noncompliant pH discharges, even if relatively brief in nature, have been cited by the City of Lynden consultant to be the most likely causes of past upsets at the City of Lynden POTW.

Despite the fact that relatively brief pH spikes can be the cause of upsets, the Department also recognizes that at some point pH spikes may be so brief as to be of little consequence with respect to their effect on the POTW. Therefore, the Department added language during the effective period of the existing permit, to the effect that noncompliant spikes lasting less than fifteen minutes will not be considered to be violations, provided that the spikes are within a certain range (no less than 3.5, nor greater than 12.0). The lower limitation for transient pH excursions has been raised from 3.5 to 5.0 in the proposed permit, as USEPA Region X has advised the Department that indirect discharge of effluent below a pH of 5.0 is prohibited even on a temporary basis.

Monitoring of direct discharge effluent for ammonia nitrogen and BOD_5 is required on a monitoring-only basis, due to a low potential of these pollutants to result in toxicity or violations of water quality criteria.

LAB ACCREDITATION

With the exception of certain parameters, the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of chapter 173-50 WAC, *Accreditation of Environmental Laboratories.*

OTHER PERMIT CONDITIONS

REPORTING AND RECORD KEEPING

The conditions of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

NONROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate waste water which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for nonroutine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, Ecology may authorize a direct discharge via the process wastewater outfall or through a stormwater outfall for clean water, require the wastewater to be placed through the facilities wastewater treatment process or require the water to be reused.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals and/or product (for example, milk and cream) that has the potential to cause water pollution and/or upset of the City of Lynden POTW if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under Section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The proposed permit requires the Permittee maintain and periodically update a plan for preventing the accidental release of pollutants to state waters or the sanitary sewer system, and for minimizing damages if such a spill occurs.

SLUG DISCHARGE CONTROL PLAN

The Department has determined that the Permittee stores or processes a quantity of chemicals and/or product (for example, milk and cream) that have the potential to cause upset, interference, or pass-through at the City of Lynden POTW if released in high concentrations or quantities. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under Section 403 of the Clean Water Act.

The proposed permit requires the Permittee maintain and periodically update a plan for preventing the release of pollutants the sanitary sewer system in quantities sufficient to cause upset or interference or pass-through at the City of Lynden POTW.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

The proposed permit requires, under authority of RCW 90.48.080, that the Permittee develop, maintain, and update, as necessary, a solid waste plan to prevent solid waste from causing pollution of waters of the state. The plan must be submitted to the local permitting agency for approval, if necessary, and to the Department.

In addition, the proposed permit contains a provision requiring submittal of a report on land disposal practices.

EFFLUENT MIXING STUDY

The Permittee submitted a Temperature and Mixing Zone Study in October 2004. The status of the review and implementation of the findings of this Study are discussed in greater detail above in the section entitled, *"Proposed Permit Limitations."*

TREATMENT SYSTEM OPERATING PLAN

In accordance with state and federal regulations, the Permittee is required to take all reasonable steps to properly operate and maintain the treatment system (40 CFR 122.41(e)) and WAC 173-220-150 (1)(g). The Permittee is required to submit a Treatment System Operating Plan for its proposed upgrade of its pretreatment/equalization system.

STORMWATER PROVISIONS

The stormwater provisions of this permit appear in Part II of the permit. The provisions in this section are intended to reflect provisions contained in the Department's *Industrial Stormwater General Permit*. A detailed fact sheet relating to the Department's Industrial Stormwater General Permit can be found at the Department's website: http://www.ecy.wa.gov/programs/wq/stormwater/industrial/index.html#Download.

However, as this permit is for a specific facility discharging to known surface water bodies, non applicable provisions appearing in the general permit have been removed. In addition conditions specific to the WestFarm Foods permit and the Nooksack River and Fishtrap Creek have been included in the stormwater provisions. As the Nooksack River and Fishtrap Creek have been listed for fecal coliform under Section 303d provisions of the Clean Water Act, fecal coliform testing and benchmark levels and adaptive management requirements have been explicitly added to the permit. The *Industrial Stormwater General Permit* contains fecal coliform testing requirements only by reference to "*parameters named on the 303(d) as causing impairment of the listed waters…*". In addition, the proposed permit contains the requirement to base development of the Stormwater Pollution Prevention Plan on guidance set forth in the *Stormwater Management Manual for Western Washington*. In addition, a number of changes to the parameters appearing in the *General Industrial Stormwater NPDES Permit* have been made to reflect state regulations, for purposes of technical accuracy, or for the purpose of increasing conciseness. References to metals in the *General Industrial Stormwater NPDES Permit* which appeared in terms of the total metal (for example, "total zinc") have been changed to "*total recoverable zinc*" to reflect the requirement that limitations in NPDES permits be stated in total recoverable form. The parameter listed as "*ammonia*" in the Action Level table has been changed to "*ammonia nitrogen*" in order to reflect the manner in which the concentration of the total of the ammonia/ammonium species is customarily measured and reported.

The ammonia nitrogen monitoring requirements related to the cow water and noncontact cooling water sample point, have been retained in Part I (the non-stormwater-related portion of permit) of this permit, as, on the basis of mass loadings, the cow water discharge would have a greater potential ammonia impact than storm water. This decision was also made because there is no ammonia monitoring requirement in the *Industrial Stormwater General Permit*. In contrast, the BOD_5 monitoring requirement, which appeared in the portion of the draft permit now labeled as Part I, has been removed from Part I, as the *Industrial Stormwater General Permit*, upon which Section II is based, already contains BOD_5 monitoring requirements.

The storm sewer lines associated with Outfalls 004 and 005 combine at Sample Point 003, from where they are routed in a southerly direction in a storm sewer toward the Nooksack River. Sample Point 003 was not established as a single stormwater sampling point in the stormwater section of this permit, due to the fact that WestFarm Foods and the Department of Ecology personnel from the Department's Bellingham Field Office are using the individual sample points to establish the source of elevated zinc concentrations in the stormwater discharge. Once the source of zinc has been established to the parties' satisfaction, WestFarm Foods may wish to apply for a permit modification to consolidate Sample Points 004 and 005.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary, to meet water quality standards for surface waters, sediment quality standards, or water quality standards for ground waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies. There is a substantial likelihood that the Department will reopen the proposed permit if it decides that provisions must be placed in the permit regarding limitations on the disposal, by means of land application, of high strength waste water.

The Department may also modify this permit as a result of new or amended state, local, or federal regulations. There is a substantial likelihood that this permit will be re-opened at the time that the City of Lynden establishes new industrial user contracts, to replace the existing contracts which are scheduled to expire in 2008.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the state of Washington. The Department proposes that this proposed permit be issued for such a period as to expire in five (5) years.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

Washington State Department of Ecology.

Laws and Regulations (http://www.ecy.wa.gov/laws-rules/index.html)

Permit and Wastewater Related Information
(http://www.ecy.wa.gov/programs/wq/wastewater/index.html)

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)

APPENDIX A—PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public Notice of Application (PNOA) was published on July 6, 2005, and July 16, 2005, in the *Lynden Tribune* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department published a Public Notice of Draft (PNOD) on December 21, 2005, in the *Lynden Tribune* to inform the public that a draft permit and fact sheet were available for review. Interested persons were invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents were available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments were mailed to:

Water Quality Permit Coordinator
Department of Ecology
Northwest Regional Office
3190 – 160th Avenue SE
Bellevue, WA 98008-5452

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30)-day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone at 425-649-7201 or by writing to the address listed above.

APPENDIX B—GLOSSARY

Acute Toxicity—The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART—An acronym for "all known, available, and reasonable methods of treatment."

Ambient Water Quality—The existing environmental condition of the water in a receiving waterbody.

Ammonia—Ammonia is produced by the breakdown of nitrogenous materials in waste water. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect waste water.

Average Monthly Discharge Limitation—The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)—Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD_5—Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD_5 is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass—The intentional diversion of waste streams from any portion of a treatment facility.

Chlorine—Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity—The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)—The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling—A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling—A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample—A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction Activity—Clearing, grading, excavation, and any other activity which disturbs the surface of the land. Such activities may include road building; construction of residential houses, office buildings, or industrial buildings; and demolition activity.

Continuous Monitoring—Uninterrupted, unless otherwise noted in the permit.

Critical Condition—The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor—A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction, for example, a dilution factor of 10 means the effluent comprises 10 percent by volume and the receiving water 90 percent.

Engineering Report—A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria—Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample—A single sample or measurement taken at a specific time or over as short a period of time as is feasible.

Industrial Wastewater—Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Major Facility—A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation—The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)—The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility—A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone—An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)—The NPDES (Section 402 of the Clean Water Act) is the federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the state of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both state and federal laws.

pH—The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)—A calculated value five times the MDL (method detection level).

Responsible Corporate Officer—A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit—A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)—Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters—Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater—That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset—An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit—A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C—RESPONSE TO COMMENTS

The following text contains a summary of the main comments submitted by WestFarm Foods and the City of Lynden during and after the Public Notice Period. The main comments were submitted in WestFarm Foods' letter received January 17, 2006; the City of Lynden's letter dated January 18, 2006; and the letter from the City of Lynden's consultant dated April 20, 2006.

WestFarm Foods' Comment: *"We have invested millions of dollars on our upgrade projects to meet existing permit limits. Yet we now find that Ecology intends to raise the bar by imposing more stringent effluent limits, which our new technology will not be able to meet,…"*

Department of Ecology Response: The largest portion of WestFarm Foods capital costs related to meeting permit limits is related to elimination of an old evaporator, and elimination of bottlenecks associated with a newer more efficient evaporator such that the new evaporator's capacity could be increased to such an extent as to make up for the lost capacity associated with shutdown of the old evaporator. My recollection is that conversations with WestFarm Foods staff indicated that the upgrade was largely associated with an effort to "improve efficiency." I interpret the phrase "improve efficiency" as meaning to lower unit costs of production of dry milk powder. The Department does not accept WestFarm Foods' apparent allocation of 100 percent of upgrade costs associated with reducing unit costs in dried milk production, to costs of meeting environmental requirements.

Wastewater Discharge Permits, including NPDES permits, are normally issued for a period of five years. The WestFarm Foods NPDES permit was issued for a period of five years, which is the maximum permit duration allowed under the Clean Water Act. Permits are issued for a limited duration in order that changes in conditions may be incorporated into the permit as required by changes in regulations and changes conditions in the POTW or receiving water. The finite permit duration period also allows an opportunity to determine whether permit conditions contained in an existing permit are adequate to achieve compliance with the requirements of the Clean Water Act and State Water Quality Regulations. Under the conditions in the existing permit, it was necessary for the operators of the City of Lynden POTW to not infrequently take extraordinary measures to prevent an upset of the City of Lynden's treatment plant. This indicates to the Department that certain standards in the existing permit, particularly those related to BOD_5 and TSS, were inadequate to achieve the purposes of the permit. Therefore, the Department has proposed limitations for the existing permit which are more stringent than those in the previous permit. The limitations have been reviewed and recommended by a consultant representing the City of Lynden.

WestFarm Foods' Comment: *"Every communication and all engineering work was premised on WestFarm meeting existing permit limits. Ecology never once mentioned the possibility of more stringent limits."*

Department of Ecology Response: Discharge limitations have changed in previous permit reissuances for the WestFarm Foods - Lynden plant. This alone is ample reason for WestFarm Foods to have expected changes in permit conditions upon reissuance of this permit.

The Department of Ecology can only require compliance with a permit in existence. At the time the engineering planning was undertaken by WestFarm Foods, the nature of the limitations appearing in the new permit were unknown to both WestFarm Foods and the Department. The Department only had legal authority to require compliance with standards in the then-existing permit.

In addition, WestFarm Foods is aware that its discharges were associated with significant operational irregularities at the City of Lynden POTW. A number of these operational incidents occurred as a result of BOD and TSS loadings, which nevertheless, were in compliance with the numerical effluent limitations set forth in the WestFarm Foods NPDES permit. This should have served as a strong indication to WestFarm Foods that certain of the numerical limitations in the existing WestFarm Foods NPDES permit were inadequate.

WestFarm Foods' Comment: *"We have reviewed the data and spoken with the City of Lynden and do not believe that the proposed limits are necessary in order for the City to consistently meet its NPDES permit limits. Instead, over the past three years, the City has had nearly perfect compliance with its NPDES permit."*

Department of Ecology Response: On numerous instances, POTW plant personnel have reported incidents linked to discharges from WestFarm Foods, which made it necessary for them to take extraordinary actions to remain in compliance with their NPDES permit conditions. The City of Lynden has employed BHC Consultants as consultant with respect to allocation of wastewater discharges to the City of Lynden POTW. The Department is of the understanding that this consultant represents the City of Lynden. The limitations contained in the permit are based on those recommended by the City of Lynden's consultant.

WestFarm Foods' Comment: *"Ecology's draft permit appears over-reaching and certainly is inconsistent with Ecology's stated goal of improving the regulatory permit process for the regulated community."*
Department of Ecology Response: Normally the term "over-reaching," in a regulatory/legal context, means that an agency has acted beyond its legal mandate as set forth in the enabling statute which defines the regulatory authority of an agency, or alternatively, that an agency has acted in a such a manner as to impose requirements more stringent than those authorized under state law, or the agency's own regulations. The Department has acted within its statutory

authority in setting limitations necessary to protect water quality. The fact that the limitations in the proposed permit are not satisfactory to WestFarm Foods is not contrary to the goal of improving the permit process for the regulated community. As noted above, the Department has imposed limitations in the permit on the basis of ensuring reliable operation of the City of Lynden POTW in such a manner as to prevent violations of water quality standards and violations of the provisions of the City of Lynden's NPDES permit.

WestFarm Foods' Comment: *"We also recall that during the last permit renewal process, Ecology took a similar approach and imposed permit limitations that WestFarm could not meet."*

Department of Ecology Response: In fact, the limitations imposed in the previous permit were arrived at following a lengthy process of negotiation with WestFarm Foods. The limitations ultimately placed in the permit were considerably less stringent than those set forth in the initial draft.

WestFarm Foods' Comment: "Despite *WestFarm's extensive attempts to persuade Ecology that the permit limits were too stringent-especially when Ecology knew the DAF Unit had not been operating since 1999, Ecology finalized the permit that WestFarm could not meet."*

Department of Ecology Response: If WestFarm Food's felt that operation of the DAF unit (Dissolved Air Flotation Unit) could have achieved compliance with permit limitations, WestFarm Foods should have started up the DAF unit.

WestFarm Foods' Comment: *"Attached you will find a redlined version of the permit and factsheet containing our requested revisions."*

Department of Ecology Response: The Department has considered your comments and made a number of changes in response to your comments:

- The permit is being issued with a life of five years. However, a reopener clause has been placed in the permit in order to provide for reopening of the permit if modification is requested by the City of Lynden. It is anticipated that the City of Lynden will request a reopening of the permit in 2008, to coincide with the expiration and renegotiation of industrial sewer use contracts which expire in that year. It is possible, as a result of industrial-user contract negotiations, or a related reallocation by the City of Lynden, of POTW capacity, that permit modifications affecting flow, BOD_5, and TSS will be necessary.
- The permit contains stormwater provisions intended to reflect those of the general stormwater industrial NPDES permit. The Department intends to cancel the existing general stormwater permit at the time of issuance of this NPDES permit.

- The ammonia monitoring requirement has been retained for the cow water discharge due to a single incident in which ammonia values approached the vicinity of the water quality standard. The recent discovery of a cross connection, resulting in discharge of process wastewater to the storm sewer also is a reason for maintaining monitoring at this sample point in order to ensure that all existing cross connections have been discovered, and that any new cross-connections (for example, as a result of pipe corrosion) are discovered in a timely manner.
- The Daily Maximum BOD_5 limitation has been changed to 5000 pounds per day, based on findings presented in the City of Lynden's consultant, contained in a letter dated April 20, 2006.
- The wording of the Noncompliance Notification Section (S3.E) has been changed to eliminate the "potential to cause noncompliance" language.

WestFarm Foods' Comment: "*The permit has been administratively extended and should remain in place until Ecology can issue a permit with a five-year permit term. We suggest that given the resources that are involved in this NPDES permit issuance process and the dollars that WestFarm has expended for its upgrades, that Ecology should either issue the permit, with our suggested revisions, for a term of five (5) years, or issue an additional administrative extension of the existing permit, with permit modification authorizing the flow increases requested by WestFarm."*

Department of Ecology Response: The Department originally intended to issue the permit with an expiration date of 2008, in order to accommodate the City of Lynden's desire to have a permit expiration date contemporaneous with the expiration of its industrial waste allocation contracts. This would have enabled reissuance of the permit shortly after completion of the new contracts, and enable inclusion of new aspects of the contracts in the renewal permit. At this time, the Department is of the understanding that the City of Lynden will be satisfied with a suitable reopener clause.

WestFarm Foods' Comment: *"Third, we are concerned that, in a number of instances, the draft permit requires WestFarm to undertake actions that are unprecedented with regard to indirect dischargers. Drafting narrative conditions that require WestFarm to avoid a potential to pollute or to guess as to the proper operation of the Lynden POTW is not supported by either the federal CWA or state law."*

Department of Ecology Response: The case which WestFarm Foods has referred to (Waterkeeper Alliance v. EPA) dealt specifically with CAFO NPDES permits. The ruling included a finding that the "duty to apply," which USEPA had included in its rules, was invalid, because it was based on a presumption that all CAFOs have at least a "potential to discharge." In the language to which WestFarm Foods objects, the Department proposed that WestFarm Foods be required to report certain spills. It is the spill to the sanitary sewer system which would trigger the reporting requirement. A spill is not a *potential* discharge, a spill ***is*** a discharge.

Moreover, many conditions in NPDES and State Waste Discharge Permits address, and effectively regulate the potential to pollute. Such conditions include spill control plans, solid waste plans, and slug discharge control plans and numerous best management practices. Such plans are specifically required as necessary, to be implemented in permits by certain NPDES pretreatment delegated states under 40 CFR Part 403.

As WestFarm Foods has discharged wastewater on numerous occasions which has caused significant adverse effects on the City of Lynden POTW, it is entirely reasonable for the Department to require that WestFarm Foods notify the City of conditions which may impact the operation of the POTW. Notification of the plant personnel is largely intended to provide them with a more timely opportunity to take actions which may be necessary to deal with unusual influent conditions.

Nevertheless, the Department has changed the wording of the spill reporting requirement to eliminate the appearance that WestFarm Foods is required to have knowledge of the results of its discharges on the City of Lynden POTW. The newly proposed language contains the requirement to "*immediately notify the City of Lynden of any spills, slug discharges, or other violations of the indirect discharge permit conditions.*"

City of Lynden Comments: The City of Lynden, under the signature of Jack Louws, sent the Department a letter, dated January 18, 2006, in which the City requested a meeting to discuss the proposed penalty and portions of the permit associated with the draft fact sheet.

The City felt that although pH had been a major factor in problems at the POTW plant in previous years, the incidents appearing at the plant during the life of the present permit appeared to be more a result of high BOD and/or TSS loadings as opposed to low or high pH. The City requested that the Department change certain language in the Fact Sheet.

Department of Ecology Response: The Department agrees that TSS and/or BOD loadings have been greater factors in recent incidents at the City of Lynden POTW plant. The fact sheet has been changed to de-emphasize the impact of pH on the POTW plant in recent years.

WestFarm Foods' Comment: WestFarm Foods requested that language be inserted in the permit to the effect that the report on Land Application Practices of Solid and Liquid Wastes is a requirement included in the permit pursuant to state law, as opposed to federal requirements.

Department of Ecology Response: The Department normally addresses rationale and legal authorization related to permit provisions in the fact sheet, as opposed to the permit. The Department has placed language in the fact sheet that reflects that this provision is mainly grounded in state law. Nevertheless, the provision is a provision of this NPDES permit. State law requires that in the case of a discharger to which state and NPDES permit requirements are applicable, the provisions of both permits be included in an NPDES permit.

City of Lynden Comment: The City of Lynden stated during the meeting of February 16, 2006, that it had conferred with its consultant and had obtained the opinion that a daily maximum limit of 5000 pounds per day of BOD_5 would be sufficient to protect the operation of the POTW. On April 21, 2006, BHC consultants submitted a letter on behalf of the City of Lynden to this effect.

Department of Ecology Response: The Department responded to the City of Lynden during the meeting of February 16, 2006, that it would consider the City of Lynden's request that the daily maximum BOD_5 limitation be increased to 5000 pounds per day, provided that the Department receives a suitable technical finding in writing from the City of Lynden's engineering consultant. Subsequently, on April 21, 2006, the Department received a letter from BHC Consultants, LLC, acting on behalf of the City of Lynden. The consultant's letter contained the opinion that *"…daily excursions to 5000 ppd are probably acceptable, provided the average daily BOD loading for the maximum month from WFF is less than 2600 ppd. This average daily BOD loading was recommended in my June 25, 2005, letter."* The engineering consultant reached this conclusion largely by means of reviewing historical data on dissolved oxygen concentrations in the City of Lynden's aeration basin during times of heavy BOD loading incidents. In response to the City of Lynden's comment and the City of Lynden's consultant's technical finding, the Department has increased the daily maximum BOD_5 limitation in the proposed permit to 5000 pounds per day. The Department has retained the 2600 pound per day monthly average limitation as recommended by the City's consultant.

City of Lynden Comment: During the meeting of February 16, 2006, the City of Lynden requested that the fact sheet be changed in order to reflect the fact, that during recent years, high BOD_5 and TSS loadings, as opposed to extreme variations in pH, have been the predominant causative factor with respect to industrially-related operational irregularities at the City of Lynden, POTW.

Department of Ecology Response: The Department reviewed the history of industrial-related incidents at the City of Lynden POTW and concurs with the City of Lynden's opinion. The language in the fact sheet has been changed to reflect the fact that during recent years, high BOD and TSS loadings have been the most significant factor with respect to industrial effluent-related plant operational problems.